

AMENDMENTS TO THE CLAIMS

Please replace the pending claims with the following claim listing:

1. **(Currently Amended)** A method for producing crystals wherein the crystals are grown from a liquefying raw material in a crucible retained in a furnace and slowly cooling a solution of the raw material in the crucible from below upward, said method being characterized in that:

heating heaters are controlled so as to have a lower temperature area than a crystallization temperature downward and a higher temperature area than the crystallization temperature above thereof in a temperature distribution in a vertical direction in the furnace in which the crucible is retained, [[and]]

a resupply raw material supplied from a raw material supply apparatus placed above the crucible is ~~supplied into the crucible~~ liquefied on a surface of a reflection plate placed above the crucible by heating [[to]] at the same temperature as in the higher temperature area, held on the surface of the reflection plate for a certain time for a soaking treatment, and supplied into the crucible from the reflection plate, and

the temperature in the higher temperature area is a soaking temperature which is 20 to 100 °C higher than the crystallization temperature.

2. **(Canceled)**

3. **(Currently Amended)** ~~[[The]]~~ A method for producing ~~[[the]]~~ crystals according to Claim 1, wherein the crystals are grown from a liquefying raw material in a crucible retained in a furnace and slowly cooling a melt of the raw material in the crucible from below upward, said method being characterized in that:

heating heaters are controlled so as to have a lower temperature area than a crystallization temperature downward and a higher temperature area than the crystallization temperature above thereof in a temperature distribution in a vertical direction in the furnace in which the crucible is retained,

a resupply raw material supplied from a raw material supply apparatus placed above the crucible is liquefied on a surface of a reflection plate placed above the crucible by heating at the same temperature as in the higher temperature area, held on the surface of the reflection plate for a certain time for an overheating treatment, and supplied into the crucible from the reflection plate, and

the temperature in the higher temperature area is an overheating treatment temperature which is 20 to 100 °C higher than the crystallization temperature.

4. **(Original)** The method for producing the crystals according to Claim 1, wherein a major component of the crystal is composed of oxide or carbonate of Ia and Va groups in a periodic table, the Ia group is lithium or potassium and the Va group comprises at least one of niobium and tantalum.

5. **(Original)** The method for producing the crystals according to Claim 1, wherein a major component of the crystal is composed of oxide or carbonate of Ia and Va groups in a periodic table, the Ia group is lithium or potassium, the Va group comprises at least one of niobium and tantalum, and one or more of Ia and IIa groups in the periodic table are contained as added impurities.

6. **(Currently Amended)** An apparatus for producing crystals wherein the crystals are grown from a liquefying raw material in a crucible retained in a furnace and slowly cooling a solution of the raw material in the crucible from below upward to produce the crystals, said apparatus being characterized by comprising, the apparatus comprising:

a raw material supply apparatus which supplies a resupply raw material; and

a reflection plate placed above the crucible, which liquefies the resupply raw material supplied from the raw material supply apparatus by heating the resupply raw material to the same temperature as a soaking temperature which is 20 to 100 °C higher than a crystallization temperature, holds the resupply raw material on the surface of the reflection plate for a certain time for a soaking treatment, and drops the resupply raw material as a liquid into the crucible.

7. **(Currently Amended)** The apparatus for producing the crystals according to Claim 6, wherein the reflection plate is in a funnel shape which narrows from above downward and is provided at its bottom portion with a drop opening which drops the liquid raw material into the crucible ~~at its bottom portion.~~

8. **(Currently Amended)** The apparatus for producing the crystals according to Claim 7, wherein the reflection plate has a plurality of grooves ~~from its extension~~ extending from an upper portion thereof to the drop opening on an inner surface of the funnel shape so that the resupply raw material is held on the surface for ~~[[a]]~~ the certain time.

9. **(Original)** The apparatus for producing the crystals according to Claim 6, wherein the reflection plate is in a bugle shape which expands downward.

10. **(Currently Amended)** The apparatus for producing the crystals according to Claim 9, wherein the reflection plate has a plurality of grooves extending from ~~[[its]]~~ the center of the reflection plate to ~~[[the]]~~ an extension on an outer surface of the bugle shape so that the resupply raw material is held on the surface for ~~[[a]]~~ the certain time.

11. **(Original)** The apparatus for producing the crystals according to Claim 6, wherein the reflection plate is configured so as to move independently from the crucible.

12. **(Original)** The apparatus for producing the crystals according to Claim 6, wherein the reflection plate comprises a heating heater.

13. **(Original)** The apparatus for producing the crystals according to Claim 6, wherein the raw material supply apparatuses are placed for each of multiple resupply raw materials having different compositions and each supply amount of the resupply raw materials can be controlled.

14. **(Original)** The apparatus for producing the crystals according to Claim 6, wherein a major component of the crystal is composed of oxide or carbonate of Ia and Va groups in a periodic table, the Ia group comprises lithium or potassium and the Va group comprises at least one of niobium and tantalum.

15. **(Original)** The apparatus for producing the crystals according to Claim 6, wherein a major component of the crystal is composed of oxide or carbonate of Ia and Va groups in a periodic table, the Ia group comprises lithium or potassium, the Va group comprises at least one of niobium and tantalum, and one or more of Ia and IIa groups in the periodic table are contained as added impurities.

16. **(New)** An apparatus for producing crystals wherein the crystals are grown from a liquefying raw material in a crucible retained in a furnace and slowly cooling a melt of the raw material in the crucible from below upward to produce the crystals, the apparatus comprising:

a raw material supply apparatus which supplies a resupply raw material; and

a reflection plate placed above the crucible, which liquefies the resupply raw material supplied from the raw material supply apparatus by heating the resupply raw material to the same temperature as an overheating treatment temperature which is 20 to 100 °C higher than a crystallization temperature, holds the resupply raw material on the surface of the reflection plate for a certain time for an overheating treatment, and drops the resupply raw material as a liquid into the crucible.

17. **(New)** The apparatus for producing the crystals according to Claim 16, wherein the reflection plate is in a funnel shape which narrows from above downward and is provided at its bottom portion with a drop opening which drops the liquid raw material into the crucible.

18. **(New)** The apparatus for producing the crystals according to Claim 17, wherein the reflection plate has a plurality of grooves extending from an upper portion thereof to the drop opening on an inner surface of the funnel shape so that the resupply raw material is held on the surface for the certain time.

19. **(New)** The apparatus for producing the crystals according to Claim 16, wherein the reflection plate is in a bugle shape which expands downward.

20. **(New)** The apparatus for producing the crystals according to Claim 19, wherein the reflection plate has a plurality of grooves extending from the center of the reflection plate to an extension on an outer surface of the bugle shape so that the resupply raw material is held on the surface for the certain time.

21. **(New)** The apparatus for producing the crystals according to Claim 16, wherein the reflection plate is configured so as to move independently from the crucible.

22. **(New)** The apparatus for producing the crystals according to Claim 16, wherein the reflection plate comprises a heating heater.

23. **(New)** The apparatus for producing the crystals according to Claim 16, wherein the raw material supply apparatuses are placed for each of multiple resupply raw materials having different compositions and each supply amount of the resupply raw materials can be controlled.

24. **(New)** The apparatus for producing the crystals according to Claim 16, wherein a major component of the crystal is composed of oxide or carbonate of Ia and Va groups in a periodic table, the Ia group comprises lithium or potassium and the Va group comprises at least one of niobium and tantalum.

25. **(New)** The apparatus for producing the crystals according to Claim 16, wherein a major component of the crystal is composed of oxide or carbonate of Ia and Va groups in a periodic table, the Ia group comprises lithium or potassium, the Va group comprises at least one of niobium and tantalum, and one or more of Ia and IIa groups in the periodic table are contained as added impurities.

26. **(New)** An apparatus for producing crystals wherein the crystals are grown from a liquefying raw material in a crucible retained in a furnace and slowly cooling the raw material in the crucible from below upward to produce the crystals, the apparatus comprising:

a plurality of raw material supply apparatuses, each raw material supply apparatus being placed for each of multiple resupply raw materials having different compositions, wherein each supply amount of the resupply raw materials can be controlled; and

a reflection plate placed above the crucible, which liquefies the resupply raw material supplied from the raw material supply apparatus and drops the liquefied resupply raw material as a liquid into the crucible.

27. **(New)** The method for producing the crystals according to Claim 3, wherein a major component of the crystal is composed of oxide or carbonate of Ia and Va groups in a periodic table, the Ia group is lithium or potassium and the Va group comprises at least one of niobium and tantalum.

28. **(New)** The method for producing the crystals according to Claim 3, wherein a major component of the crystal is composed of oxide or carbonate of Ia and Va groups in a periodic table, the Ia group is lithium or potassium, the Va group comprises at least one of niobium and tantalum, and one or more of Ia and IIa groups in the periodic table are contained as added impurities.

29. **(New)** The method for producing crystals according to Claim 1, wherein the certain time is 1 to 20 hours.

30. **(New)** The method for producing crystals according to Claim 3, wherein the certain time is 1 to 20 hours.

31. **(New)** The apparatus for producing crystals according to Claim 6, wherein the certain time is 1 to 20 hours.

32. **(New)** The apparatus for producing crystals according to Claim 16, wherein the certain time is 1 to 20 hours.